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10/596,119	05/31/2006	Giovanni Beretta	1029.1036	2318

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EXAMINER

KELLEHER, WILLIAM J

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3673

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,119	Applicant(s) BERETTA, GIOVANNI	
	Examiner Bill Kelleher	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/31/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 1-4, 7, and 13-15 are rejected under 35 U.S.C. 103(a) as obvious over Oexman (U.S. Patent 5,848,450) in view of Stolpmann (U.S. Patent 6,212,718).

Regarding Claims 1 and 4, Oexman discloses a mattress comprising air inlets (Oexman discloses in Column 4, Lines 32-37 that "The control 30 includes a controller module 31, which contains pneumatic components including an air pump or compressor 32 that has an air inlet 33 communicating with atmosphere and an outlet 34 that connects through a respective one of four normally closed solenoid inflation valves 35a-38a to respective **inlets** of the air mattress zones 25-28.), an electric compressor (32), electric valves (35a-38a), a control unit (31), an automatic switch (44), one or more pressure sensors (55-58), an external cover (Figure 2A shows the shape of Oexman's air chambers while Figure 2 shows these chambers surrounded by a cover.), in which a padding (combination of all of Oexman's air chambers) including air chambers (shown in Figure 2A) suitable for being inflated for supporting the body of at least one user is arranged wherein the air chambers are connected by means of the air inlets to an electric compressor (32) for sucking air from the outside (33) and pump it into the chambers, said inlets being provided with electric valves (35a-38a) connected to the control unit (31) which is in turn connected to the automatic switch (44) arranged along an electric line between the compressor (32) and an electric power source (43) wherein the control unit (31) opens or closes electric valves and the automatic switch according

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to control signals coming from the pressure sensors (Oexman discloses in Column 4, Line 66 that "The microprocessor 50 controls the valves 35a-38a and 35b-38b and the pump actuation switch 44 in response signals from the user interface control 40, from a deflate switch 51 on the module 31, from an auxiliary input 52 that connects either to the bed control 15 or sensor switches 53 and 54 on the head and foot sections of the bed 11, and from a set of four pressure sensors 55-58, which generate analog signals in response to measurements of the pressures on lines between the ports 45-48 and the valves 35a-38a and 35b-38b.) wherein the air chambers are grouped into one or more groups (25-28) of mutually connected air chambers. Oexman does not disclose the pressure sensors measuring pressure in one or more air chambers of one group that differs from the air chamber of the same group connected to an inlet. Stolpmann, however, in Figure 6, shows zones 131, 132, and 136. These zones have inlets (e.g. 236, 238, 240) controlled by valves (e.g. 252, 254, 256) connected to compressor 174. Figure 6 also shows that on the side of the zones opposite the inlets, valves, and pumps, are outlets (e.g. 950, 956, 962) connected to pressure sensors 178, 180, 182. Furthermore, Figure 6 shows (for zones 131 and 136) that the inlets and outlets are longitudinally offset. For example, extending an imaginary line continuing in the direction of 236 through zone 131, it does not intersect 950. Applying this longitudinal offset as shown by Stolpmann to the zones of Oexman would result in the inlets and outlets being on opposite sides of the mattress. Furthermore, this combination, due to the longitudinal offset, would result in the inlet and outlet (to pressure sensor) being placed on different cells within each zone of Oexman. One of ordinary skill in the art would

have recognized that applying an outlet to a cell that is not the same cell as the cell with the inlet would better allow air to fill the remaining zones without escaping through the outlet first.

Regarding Claims 2 and 3, Oexman as modified, more specifically Oexman discloses the mattress of Claim 1, characterized in that the groups of air chambers are connected to the outside through outlets provided with electric valves connected to the control unit. Oexman discloses in Column 4, Lines 41-45 that "The pneumatic components also include a bank of four normally closed solenoid deflation valves 35b-38b that are connected in respective outlets from each of the respective zones 25-28 which vent to atmosphere." Oexman further discloses that "...respective one of four normally closed solenoid inflation valves 35a-38a" in Column 4, Line 36.

Regarding Claim 7, Oexman as modified, more specifically Oexman discloses a mattress with air chambers grouped into four groups (25-28) mutually connected in each group. These groups correspond to the head zone (25), a lumbar zone (26), a sacral zone (27) and a leg zone (28) of the user (depending on which way the user uses the mattress). Oexman's leg zone (28) has a depth greater than other zones (26 and 27) as shown in Figure 2.

Regarding Claim 13, Oexman as modified, more specifically Oexman discloses a control unit (31) provided and connected with at least one digital memory (60) suitable for storing the pressure values in one or more air chambers.

Regarding Claim 14, Oexman as modified, more specifically Oexman discloses "The first step of the program that is loaded from the EEPROM 60 is to check to

determine if user defined pressure SETTINGS have been entered and retained in memory in the EEPROM 60 for each of the four zones 25-28 of the mattress 20. If such user defined SETTINGS have not been entered and retained, factory or installer set default data is used, which might be generic data for all users or data for a particular class of users, such as users in a particular weight range." Therefore, Oexman's digital memory (60) comprises a series of pressure values which can be selected by the control unit according to the user's weight.

Regarding Claim 15, Oexman as modified, more specifically Oexman's control unit (31) can communicate with an external remote control (40) for modifying the pressure in the air chambers.

2. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oexman in view of Stolpmann as applied to Claim 1 above, and further in view of Higgs (U.S. Patent 5,249,319). Oexman discloses the mattress of Claim 1, but does not disclose the padding having a substantially parallelepiped shape with four sides and a base made of polyurethane foam. Higgs, however, discloses an air mattress enclosed in a foam padding (Column 2, Lines 46-49) with a substantially parallelepiped shape with four side walls and a base (20) made of polyurethane foam (Column 3, Lines 11-12). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a padding such as Higgs' to surround the air chambers of Oexman. The motivation would have been to protect the air chambers from damage.

3. Claims 6, 8, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oexman in view of Stolpmann as applied to Claim 1 above, and further in view of Graebe (U.S. Patent 5,596,781).

Regarding Claim 6, Oexman discloses the mattress of Claim 1, but does not disclose the air chambers being in rows and columns. Graebe, however, discloses a grid of air chambers (See Figure 2 of Graebe) which form rows and columns. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to replace Oexman's air chambers with Graebe's. The motivation would have been to maximize user comfort. The combination of Graebe's bladders is considered the padding. Therefore the air chambers had a substantially parallelepiped shape and are arranged in the padding between its side walls (outer side wall of combination of air chambers) and above its base (base of combination of air chambers) and forms horizontal rows and columns.

Regarding Claim 8, Graebe's air chambers (See Figures 8 and 9) are obtained by an upper sheet (14), of deformable material, which is shaped so as to form a plurality of alveoli with a substantially parallelepiped shape which are open downwards and are mutually connected by stripes (material that surrounds each cell) of the same material along their lower edges, a lower sheet (13) of a deformable material being welded along said stripes (welding of 13a to 14a at 15a) so as to hermetically close the alveoli and obtain air chambers.

Regarding Claim 9, Graebe's air chambers communicate with one or more adjacent chambers through a slit (16) made between the upper and lower sheets by

preventing the welding between the sheets along a portion of the stripe which joins the lower edges of the alveoli.

Regarding Claim 11, The air chambers are considered to be the volume occupied between sheets 13 and 14 of Graebe. Therefore, sheet 13 is considered to be a flexible net arranged on the air chambers.

Regarding Claim 12, The upper sheet of Graebe's air chambers is a deformable material suitable for keeping the deformed shape for a determinate period.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oexman in view of Stolpmann as applied to Claim 1 above, and further in view of Everard (U.S. Patent 5,142,717). Oexman discloses the mattress of Claim 1, but does not disclose reinforcing members which had a complementary shape and smaller size than the air chambers that are made of a deformable material and arranged in the air chambers. Everard (See Figure 2a), however, discloses air chambers with reinforcing members with a complementary shape and a smaller size and are made of deformable material (open cell foam) and are arranged in the air chambers. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use air bladder reinforcements such as Everard's in Oexman's air bladders. The motivation would have been "to support a sufficient amount of the weight of a person to allow the pressure within the mattress to be reduced."

Response to Arguments

Applicant's arguments with respect to Claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

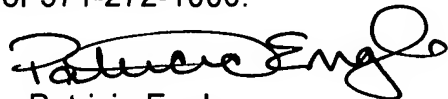
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bill Kelleher whose telephone number is (571)-272-7753. The examiner can normally be reached on Monday - Friday 8:30am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Engle can be reached on (571)-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Patricia Engle
Supervisory Patent Examiner
Art Unit 3673

BK

① 8/14/07